

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	

**REPLY COMMENTS of ADTRAN, INC.**

ADTRAN, Inc. (“ADTRAN”) hereby replies to some of the comments filed in response to the Commission’s Public Notice seeking input regarding service obligations for Connect America Phase II and determining who qualifies as an unsubsidized competitor offering “broadband” service.<sup>1</sup> ADTRAN urges the Commission to reject the attempts by some of the commenters to game the system to favor particular technologies. ADTRAN believes the record supports the Commission’s moving forward expeditiously to adopt recommended criteria for “broadband” with respect to speed/throughput, latency, capacity/usage and coverage, because all four factors will affect the users’ experience and ability to access services and applications. Such action will ensure that the Connect America Fund Phase II is implemented consistent with the Commission’s goals and intentions as reflected in the *USF/ICC Transformation Order*<sup>2</sup> and the National Broadband Plan.<sup>3</sup>

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<sup>1</sup> *Connect America Fund*, Public Notice, DA 13-284, released February 26, 2013 (hereafter cited as “*Public Notice*”).

<sup>2</sup> *USF/ICC Transformation Order*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (Nov. 18, 2011) (“*USF/ICC Transformation Order* ”)

<sup>3</sup> *National Broadband Plan*, March, 2010, available at <http://download.broadband.gov/plan/national-broadband-plan.pdf>.

### ***The Broadband Criteria Should be Technology Neutral***

In its initial comments, ADTRAN explained why it was important for the Commission to prescribe criteria for determining whether a “broadband” service offered by an unsubsidized competitor qualified so as to preclude CAF Phase II support in areas where that service was currently being offered. Failure to require such offerings to meet these criteria would relegate subscribers in those areas to “second class” broadband. In addition, ADTRAN believes that both for purposes of determining the service that must be offered when CAF Phase II support is provided, and determining whether an area should be excluded from any such support because an unsubsidized competitor is already offering “broadband,” the same standards should be used for defining “broadband.” Those criteria should be established based on consumers’ ability to access services and applications -- including remote learning, telehealth, communication and entertainment -- as envisioned in the National Broadband Plan. Moreover, ADTRAN urges the Commission to apply the same criteria, regardless of the technology used to provide the broadband service.<sup>4</sup> ADTRAN was not alone in calling for such technology-neutral criteria.<sup>5</sup>

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<sup>4</sup> ADTRAN does recognize that it may be appropriate to apply somewhat more relaxed criteria for Remote Area Fund support and other insular areas. *Cf.*, Alaska Communications Systems at pp. 7-8 (different latency standards should apply in Alaska).

<sup>5</sup> *E.g.*, Comments of the California PUC at p. 6:

If the Commission decides to allow fixed and mobile wireless providers to be considered as unsubsidized providers for purposes of CAF Phase II, the Commission should require the wireless providers to prove that their services meet the speed, capacity, latency and price criteria, including the capability of supporting both voice and streaming video.

Other commenters also claimed to be supporting “technology neutral” criteria, but then seek special advantages for their particular technology. For example, ViaSat in its comments reiterated “its request that the Commission ensure that any requirements with respect to broadband speed, pricing, usage allowances, and latency adopted in connection with the evaluation of potential ‘unsubsidized competitors’ are grounded in empirical data and adopted on a competitively- and technologically-neutral basis.”<sup>6</sup> Indeed, ADTRAN did just that in urging the Commission to use the industry-driven standards bodies’ recommendations and extensive usage data to develop the suggested criteria for speed/throughput, latency, capacity and coverage. Unfortunately for ViaSat, such an objective analysis results in a latency criterion that cannot be met using Geostationary satellite technology -- the need for the signal to traverse the 22,236 mile journey up to the satellite and 22,326 mile journey back down to Earth results in a latency of some 638 ms (as determined in the measurements undertaken for the Commission’s Measuring Broadband America report<sup>7</sup>). Such latency is significantly above the maximum delay recommended by the standards work of the ITU, the 3<sup>rd</sup> Generation Partnership Project, and the Broadband Forum.

ViaSat tries to avoid the inevitable consequences of the laws of physics by urging the Commission to eschew any specific latency criterion, and/or suggesting that satellite broadband

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<sup>6</sup> ViaSat Comments at p. 2.

<sup>7</sup> 2013 Measuring Broadband America Report, “A Report on Consumer Wireline Broadband Performance in the U.S.”, February 2013 at p. 11, available at <http://transition.fcc.gov/cgb/measuringbroadbandreport/2013/Measuring-Broadband-America-feb-2013.pdf> (hereafter cited as “*Measuring Broadband America Report*”).

offers “reasonably comparable” broadband service.<sup>8</sup> That is not true. While the Commission did find in the *Measuring Broadband Report* that ViaSat’s service “will support many types of popular broadband services and applications,”<sup>9</sup> that same report also observed that:

In the February 2013 report, across all terrestrial technologies during peak periods, latency averaged 29.6 ms comparable to the July 2012 Report figure of 31 ms. Satellite systems involve the transmission of information over long distances and have correspondingly higher latencies than for terrestrial technologies. ViaSat had a measured latency of 638 ms for this report, approximately 20 times that for the terrestrial average.<sup>10</sup>

Such a disparity in latency between terrestrial and satellite technologies adversely affects the services and applications that consumers would enjoy if they were limited to satellite broadband service. While satellite broadband service is a significant improvement over the dial-up access that may be the only alternative in some areas, while ViaSat’s service may be an improvement over previous generation satellite service, and while satellite broadband may be a efficient way to provide service in very-high cost insular areas so as to be eligible for Remote Area Fund subsidies, satellite broadband does not meet the maximum latency criteria adopted by the various standards setting bodies that have examined this issue to date. And these standards bodies utilize “a data-driven process that examines actual consumer needs” as advocated by ViaSat.<sup>11</sup>

As ADTRAN explained in its initial comments, the Commission needs to apply criteria for latency, capacity and coverage – in addition to speed/throughput – in order to ensure that in areas to be supported by CAF Phase II, as well as in areas ineligible for support because they are

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<sup>8</sup> ViaSat Comments at p. 2.

<sup>9</sup> *Measuring Broadband America Report* at p. 7.

<sup>10</sup> *Id.* at p. 11.

<sup>11</sup> ViaSat Comments at p. 9.

already served by an unsubsidized competitor, consumers will have access to broadband that will allow them to enjoy the services and applications commonly accessed by subscribers now and into the foreseeable future. Absent unusual circumstances, “almost good enough” will not cut it. Geostationary satellite broadband service faces an insurmountable latency barrier that should preclude it from being considered a broadband service offered by an unsubsidized competitor that would disqualify a territory for CAF Phase II support.

Another party seeking similar special treatment for its technology was CTIA. In its initial comments in this proceeding, CTIA suggested that in “setting performance criteria for CAF Phase II – including speed, latency, usage/capacity, and pricing – the Commission should base its metrics on analysis of real-world usage and products adopted by consumers in the marketplace, including mobile wireless broadband usage.”<sup>12</sup> ADTRAN certainly agrees with the first part of CTIA’s request, and has itself urged the Commission to adopt criteria that will allow subscribers to be able to enjoy services and applications that most current broadband subscribers expect, including communications, web-surfing, entertainment, interactive applications, distance learning, telehealth and civic involvement. However, the Commission should be wary of setting the criteria based on “mobile wireless broadband usage” as advocated by CTIA, because mobile wireless subscribers’ usage patterns are driven by the tiered pricing schemes, overage charges and throttling that most wireless carriers employ as a result of the limited, shared capacity in their networks.<sup>13</sup>

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<sup>12</sup> CTIA Comments at p. 10.

<sup>13</sup> Cf., “Helping Consumers Avoid Bill Shock,” (“Consumers are getting help to avoid bill shock thanks to last year’s agreement by the major U.S. wireless service providers to a change in the voluntary Consumer Code for Wireless Service”), available at <http://www.fcc.gov/bill-shock-alerts>; NY Times, “Is Data Throttling a Necessary Evil for Cellphone Carriers?”, February 14,

CTIA also asserts that “an inclusive definition of ‘unsubsidized competitor’ will increase the efficiency of the fund by eliminating support in areas where it is unnecessary to ensure that consumers have access to voice and broadband service.”<sup>14</sup> That is true, but only if the service offered by that unsubsidized competitor offers speed/throughput, latency, capacity and coverage that is fully consistent with Commission prescribed criteria as suggested by ADTRAN. Likewise, ADTRAN urges the Commission to reject efforts by the cable industry to allow an inferior level of service to suffice as “broadband” if offered by an unsubsidized competitor.<sup>15</sup> Otherwise, consumers in those areas excluded from CAF Phase II support will be relegated to a “second class” broadband. And in measuring whether a service complies with the criteria, it should not matter whether the technology is wired or wireless.<sup>16</sup>

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2012, available at <http://bits.blogs.nytimes.com/2012/02/14/data-throttling-carriers/>. Indeed, CTIA’s attempt to use the wireless carriers’ efforts to drive down usage as a basis for lowering the minimum usage criteria in defining “broadband” for CAF Phase II purposes is reminiscent of the classic definition of “chutzpah” -- “that quality enshrined in a man who, having killed his mother and father, throws himself on the mercy of the court because he is an orphan.” *Motorola Credit Corporation and Nokia Corporation v. Kemal Uzan et. al.*, 561 F.3d 123 (2nd Cir. 2009) at fn. 5.

<sup>14</sup> CTIA Comments at p. 3.

<sup>15</sup> NCTA Comments at p. 3: “To avoid this scenario and to ensure that universal service funding is not used to overbuild existing facilities, the Bureau should not require unsubsidized competitors to meet the same requirements imposed on funded providers before an area is deemed to be served.”

<sup>16</sup> Cf., *USF/ICC Transformation Order* at ¶ 104: “A wireless provider that currently offers mobile service can become an ‘unsubsidized competitor,’ however, by offering a fixed wireless service that guarantees speed, capacity, and latency minimums will be met at all locations with the relevant area.”

***The Commission Can Adopt Some Presumptions to Make the Challenge Process Manageable***

In the *Public Notice*, the Commission suggested the use of a rebuttable presumption for cable broadband service providers offering the minimum speeds that such service would qualify as “broadband” so as to exclude that area from CAF Phase II support, subject to a challenge process, but no such presumption would be afforded wireless broadband providers.<sup>17</sup> ADTRAN supported this approach, and several of the other commenting parties agree.<sup>18</sup> On the other hand, WISPA contends that such a presumption would be unlawful.<sup>19</sup>

ADTRAN disagrees with WISPA’s claim that the differing treatment is unjustified. The Commission has gathered extensive information with regard to the actual capabilities of wireline broadband services, and that data supports a presumption that present wireline technologies meet the suggested speed, capacity and latency criteria for “broadband.”<sup>20</sup> There is no similar affirmative record with regard to wireless broadband services, and indeed, parties have explained the limitations of wireless broadband.<sup>21</sup> Simply put, the Commission’s decision not to utilize a

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<sup>17</sup> *Public Notice* at ¶ 11.

<sup>18</sup> *E.g.*, Alaska Communications Systems Comments at pp. 10-11; ITTA Comments at p. 5; ACA Comments at p. 3; AT&T Comments at pp. 5-6.

<sup>19</sup> WISPA Comments at p. 5:

In sum, the “reverse challenge” process for fixed broadband providers that the Bureau proposes in the *Public Notice* will impose discriminatory and burdensome obligations on a single category of terrestrial broadband providers. Absent some well-reasoned explanation, and not a generalized statement, such disparate treatment is unlawful.

<sup>20</sup> *See generally*, *Measuring Broadband America Report* at pp. 9-12.

<sup>21</sup> *See, e.g.*, ADTRAN White Paper, “Defining Broadband Speeds: Estimating Capacity in Access Network Architectures,” filed in GN Docket No. 09-51, submitted January 25, 2010 at

rebuttable presumption that a wireless broadband offering would satisfy the criteria for excluding CAF Phase II support is supported by the record evidence.

### ***General Consensus on Latency***

In its initial comments, ADTRAN explained why it was necessary for the Commission to specify criteria for maximum latency in order to ensure that the service offered by the unsubsidized competitor (and the supported provider under CAF Phase II) would allow consumers to enjoy a true broadband experience as envisioned by the National Broadband Plan. In setting the latency criteria, ADTRAN suggested the Commission look to the standards-setting work done by ITU, the 3<sup>rd</sup> Generation Partnership Project, and the Broadband Forum.<sup>22</sup> With the notable exception of ViaSat, the commenting parties agree that it is important for the Commission to establish maximum latency criteria for defining “broadband” for purposes of CAF Phase II.<sup>23</sup> While it is easy to understand ViaSat’s opposition to latency criteria in light of

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pp. 11-14, 18-22, 25-26 and 28-31; Waiver Request of CenturyLink in WC Docket No. 10-90, *et al.* (filed June 26, 2012) at pp. 10-11.

<sup>22</sup> See ADTRAN Comments at pp. 10-14.

<sup>23</sup> E.g., US Telecom Comments at pp. 10-11 (“USTelecom endorses the latency standard required by the *USF/ICC Transformation Order* – latency that is sufficiently low to enable real-time applications such as VoIP”); WISPA Comments at p.6 (“WISPA supports the Bureau’s efforts to establish a useful, measurable latency standard.”); California PUC Comments at p. 6 (“If the Commission decides to allow fixed and mobile wireless providers to be considered as unsubsidized providers for purposes of CAF Phase II, the Commission should require the wireless providers to prove that their services meet the speed, capacity, latency and price criteria, including the capability of supporting both voice and streaming video.”); ACA Comments at p. 3 (“Most importantly, ACA submits that the Commission has more than sufficient evidence to recognize that broadband service offered by cable operators that meets the speed requirements for Phase II support also satisfies the latency, capacity, and price requirements.”).



the inherent limitations of a geostationary satellite to meet any reasonable limits, the Commission should not be swayed by ViaSat's self-interested arguments.

There were some relatively minor discrepancies among the specific latency criteria suggested by the commenting parties. This is not surprising, in light of the ongoing nature of the standards-development processes with regard to measuring broadband latency, as well as some ambiguity as to how latency may be defined and measured.<sup>24</sup> ADTRAN continues to believe that the Commission should rely on the standards-setting bodies to establish the specifics of any necessary criteria and measurements for latency. There are some slight differences in the criteria suggested by the different standards-setting organizations. AT&T in its comments had suggested the Commission set the latency standard based on ITU Recommendation Y.1541 of 100 ms one-way (*i.e.*, from the source to a destination), which had also been cited by ADTRAN.<sup>25</sup> ADTRAN certainly has no objection to the Commission using this slightly more conservative value. Likewise, ADTRAN agrees with AT&T that the Commission should also apply a rebuttable presumption that wireline technologies meet this latency standard.<sup>26</sup> Indeed, the extensive testing already conducted in connection with the Measuring Broadband America Report demonstrates that wireline technologies comfortably meets this standard: "In the

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<sup>24</sup> *E.g.*, WISPA Comments at p. 6:

WISPA supports the Bureau's efforts to establish a useful, measurable latency standard, but suggests that 100 ms may be the suitable numerical standard. However, WISPA cautions that "latency" can be defined and measured in many ways, depending on multiple factors. Therefore, along with the establishment of a numerical standard, the Bureau should establish a clear, workable, measureable definition of "latency."

<sup>25</sup> *See* AT&T Comments at p. 8; ADTRAN Comments at pp. 13-14.

<sup>26</sup> AT&T Comments at p. 7.

February 2013 report, across all terrestrial technologies during peak periods, latency averaged 29.6 ms comparable to the July 2012 Report figure of 31 ms.”<sup>27</sup>

### ***Conclusion***

The CAF Phase II program should play an important role in bringing broadband service to the majority of the remaining areas unserved by broadband. However, in order for the consumers in those areas to truly enjoy the benefits of broadband, the Commission cannot exclude areas that are presently served by “almost, but not quite” broadband. ADTRAN continues to urge the Commission to establish criteria for speed/throughput, latency, capacity and coverage for CAF Phase II “broadband” that would apply regardless of the technology used. ADTRAN also urges the Commission to apply rebuttable presumptions as suggested in its initial Comments as well as these Reply Comments. By taking these actions, the Commission will best serve the public interest.

Respectfully submitted,

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<sup>27</sup> *Measuring Broadband America Report* at p. 11.